

REMARKS

Examiner Dang is thanked for his thorough examination of the Subject Patent Application. Regarding the rejection of Claims 1 - 4, 6 - 7, 9, and 13, based on 35 USC 102, as being anticipated by Chau et al (US 5,625,217 B1), independent Claim 1, has been amended and is now believed to show distinct differences from the Chau et al prior art. Amended Claim 1, now describes a process in which the entire semiconductor shape is consumed in the formation of metal silicide on an underlying conductive gate structure. In contrast the Chau et al art employs a thick polysilicon layer 302 (fig. 2) or polysilicon layer 512 (fig. 4a), which is not totally consumed during an anneal procedure used to form metal silicide region 306, or 524. Chau et al do not use the underlying layer 302 as a consumable layer to protect an underlying gate structure, but only consume a portion of this layer with the remaining thicker portion being used as the gate structure. This process will result in a less conductive shape (polysilicon), as a component of a gate structure, when compared to applicants structure in which total consumption of a semiconductor shape is described resulting in metal silicide directly on the underlying conductive gate structure. Dependent Claim 13, which described only a portion of applicant's semiconductor shape being consumed during the silicide procedure has been cancelled. Therefore based on the amendment made and the above arguments reconsideration of the rejection of independent Claim 1, and dependent Claims 2 - 4, 6 - 7, 9 and 12, is requested. Claim 13, now described in amended Claim 1, has been cancelled.

Regarding the rejection of Claims 5 and 10, under 35 USC 103 as being unpatentable over

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Chau et al in view of Deshpande et al (US 6,512,2660), dependent Claims 5 and 10 now reference amended independent Claim 1, which uniquely describes a method in which total consumption of a semiconductor shape during silicide formation. This unique process step, not described in above prior art, should result in allowance of referencing dependent Claims 5 and 10, therefore reconsideration of the rejection of Claims 5 and 10, under 35 USC 103 is requested.

Regarding the rejection of Claims 1 - 6, and 9 - 14, under 35 USC 103 as being unpatentable over Bai et al (US 5, 818,092), in view of Deshpande, neither art describes applicant's unique process sequence described in amended independent Claim 1. Again applicant now describes a protective semiconductor shape totally consumed in a silicide process resulting in metal silicide on an under conductive gate structure. It can be clearly seen in the Bai prior art that layer 206, a barrier layer is formed on underlying polysilicon layer 204, wherein the polysilicon will subsequently be the conductive gate structure. Another silicon layer 208, is then formed on barrier layer 206, and is used to provide silicon for formation of metal silicide layer 220, with barrier layer 206, still remaining on an underlying gate structure. This surely is different from applicant's formation of metal silicide which features total consumption of a semiconductor shape which results a metal silicide now directly overlying the conductive layer, resulting in a metal silicide shape overlying a conductive gate shape which in turn directly overlays a gate insulator layer. The Bai prior art does not use consumption of silicon layer 208, to protect the subsequent conductive gate structure from a silicide process since polysilicon gate structure 204, is still separated from metal silicide by barrier layer 206. Therefore reconsideration

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of the rejection of independent Claim 1, and referencing dependent Claims 2 - 6, 9 - 12, and 14, is requested based on the amendment made to independent Claim 1. Again Claim 13, has been cancelled. In addition reconsideration of the rejection of dependent Claims 7 - 8, and 10, under 35 USC 103, now referencing amended independent Claim 1, is requested.


Regarding the rejection of independent Claim 16, under 35 USC 103 as being unpatentable over Bai et al, taken with Deshpande et al, in view of Wieczorek et al, amendment made to Claim 16, clearly distinguish the vital differences of amended Claim 16 when compared to the above prior art. Independent Claim 16 describes an amorphous silicon shape on an underlying metal gate structure with the silicide procedure totally consuming the amorphous silicon shape to result in a metal silicide shape now directly on a metal gate structure. No combination of Examiner's above cited art can be used to describe applicant's process sequence. The Bai et al art describes consumption of amorphous silicon during silicide procedure, however on an underlying barrier layer which in turn is overlying a polysilicon gate structure not a metal gate structure as applicants invention features. Applicant is attempting to form the silicide directly on an underlying metal gate structure not on an underlying barrier layer which in the Bai et al art remains as a component of the final structure. Bai et al attempt to form an agglomerated silicide layer therefore the presence of underlying barrier layer 206, in contrast to applicants process in which silicide is formed via consumption of an amorphous silicon shape, directly on a metal gate structure. Therefore reconsideration of the rejection of independent Claim 16, as well as all non - cancelled dependent Claims 17 - 28, 30 and 31, is requested based on the amendments made to independent Claim 16, as well as the arguments presented. Claim 29, now included in amended

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independent Claim 16, has been cancelled.

Allowance of all Claims is requested.

It is requested that should Examiner Dang not find that the Claims are now Allowable that he call the undersigned attorney at 845-452-5863, to overcome any problems preventing allowance.

 Respectfully submitted,
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